Caninization of the household and falling fertility

A hypothesis of partial demographic-affective substitution in advanced urban societies

Author: Xema Gatnau
Date: 9 August 2026

Abstract

In recent decades, many developed societies have experienced two apparently independent processes at the same time: on the one hand, a persistent fall in fertility; on the other, an expansion of companion animals, especially dogs, within the household. This paper proposes to analyse that coincidence through the hypothesis of partial demographic-affective substitution: not in the strong sense that dogs directly cause the fall in birth rates, but in the more cautious sense that modern households reorganise part of their affective, co-residential and care functions in a context of fewer children, smaller households, delayed motherhood and fatherhood, individualisation and the transformation of urban life. The paper studies Italy, Germany, South Korea and the United States. The results show that the divergence is especially intense in South Korea, clear in the United States, moderate in Italy and more ambiguous in Germany.

Keywords: fertility, dogs, pets, birth rates, urban households, affective demography, domestic substitution, South Korea, Italy, Germany, United States.

1. Introduction

An increasingly visible sociological observation in developed urban societies is the following: as birth rates fall, the affective, symbolic and material presence of dogs in households rises. In parks, streets, homes, shops, social networks and urban regulation, the dog appears less and less as a functional animal -for guarding, work or hunting- and increasingly as a member of the household.

The thesis of this paper is not that “people have dogs because they do not have children” in a simple, direct or universal sense. Such a statement would be sociologically weak and empirically difficult to prove. The more precise thesis is that a recomposition of the household is taking place: where offspring decline, other forms of companionship, care, routine, affective spending and domestic belonging increase.

The hypothesis may be formulated as follows: in societies with low fertility, smaller households and greater individualisation, the presence of dogs in households tends to increase, not as the sole cause of low birth rates, but as a symptom and component of a demographic-affective reorganisation of the household.

2. Conceptual framework: from the reproductive household to the affective household

The traditional household was not only a residential unit. It was also a reproductive, economic, intergenerational and care unit. In that model, children, grandparents, siblings, cousins and neighbours structured much of everyday life. By contrast, the contemporary urban household tends to be smaller, more individualised and more affectively self-centred.

In this context, the dog enters the household not merely as an animal, but as a relational subject. It is spoken to, its birthday is celebrated, specialised food is bought for it, insurance is contracted, holidays are organised around it and, in some cases, it is explicitly treated as part of the family.

The conceptual key is that the dog does not replace the child in demographic terms: it does not reproduce the population, it does not generate human generational continuity and it does not fulfil the social function of descent. But it can partially replace some affective functions: daily companionship, routines of care, bodily and emotional bonding, time structure, a reason for walking and sociability, symbolic belonging to the household and economic and affective investment.

3. Working hypothesis

The general hypothesis of the paper is the following: falling fertility and the increase in dogs within the household are part of the same transition of the modern household: the reproductive function declines and the affective-compensatory function of the household grows.

This hypothesis can be broken down into four narrower hypotheses: H1, in several developed countries, the presence of dogs in households increases while fertility falls; H2, the relationship does not have the same strength in all countries; H3, the most relevant indicator is not only the total number of dogs, but the presence of pets in childless households or childless couples; H4, the observed relationship does not prove that dogs cause the fall in birth rates.

4. Methodology

The analysis uses two types of indicators: total fertility, measured as children per woman, and caninization or canine presence, measured as the percentage of households with a dog, the number of households with a dog or the dog population, depending on the statistical availability of each country.

The main methodological difficulty is that fertility is very well measured by international statistical bodies, while the presence of dogs often depends on national surveys, administrative records, veterinary associations or estimates from the companion-animal industry.

For that reason, this paper avoids comparing absolute figures across countries when methodologies differ. Instead, it uses a comparison of relative change within each country, normalising both variables to an index of 100 in the initial year.

Dog index = (P_t1 / P_t0) x 100

Fertility index = (F_t1 / F_t0) x 100

Demographic-affective divergence = Dog index / Fertility index

5. Basic comparative table

The table shows that the general pattern exists, but with different degrees of intensity. South Korea is the strongest case; the United States also fits well; Italy shows a moderate divergence but with very solid data on childless couples; Germany is a mixed case.

Country	Comparable period	Dog indicator	Dog change	Initial fertility	Final fertility	Fertility change	Approx. divergence
Italy	2006-2024	Households with dog	+6.8%	1.37	1.18	-13.9%	1.24
Germany	2010-2023/24	Households with dog	+59.1%	1.39	1.36	-2.2%	1.63
South Korea	2012-2022	Households with dog	+40.6%	1.297	0.778	-40.0%	2.34
United States	2016-2020	Households with dog	+16.1%	1.8205	1.6415	-9.8%	1.29

6. Charts

To visually represent the relationship between canine presence and fertility, both variables have been normalised to an index of 100 in each country's initial year. This normalisation makes it possible to compare heterogeneous magnitudes -percentage of households with a dog, number of households with a dog and total fertility- without confusing units. The charts do not show direct causality, but rather a temporal divergence.

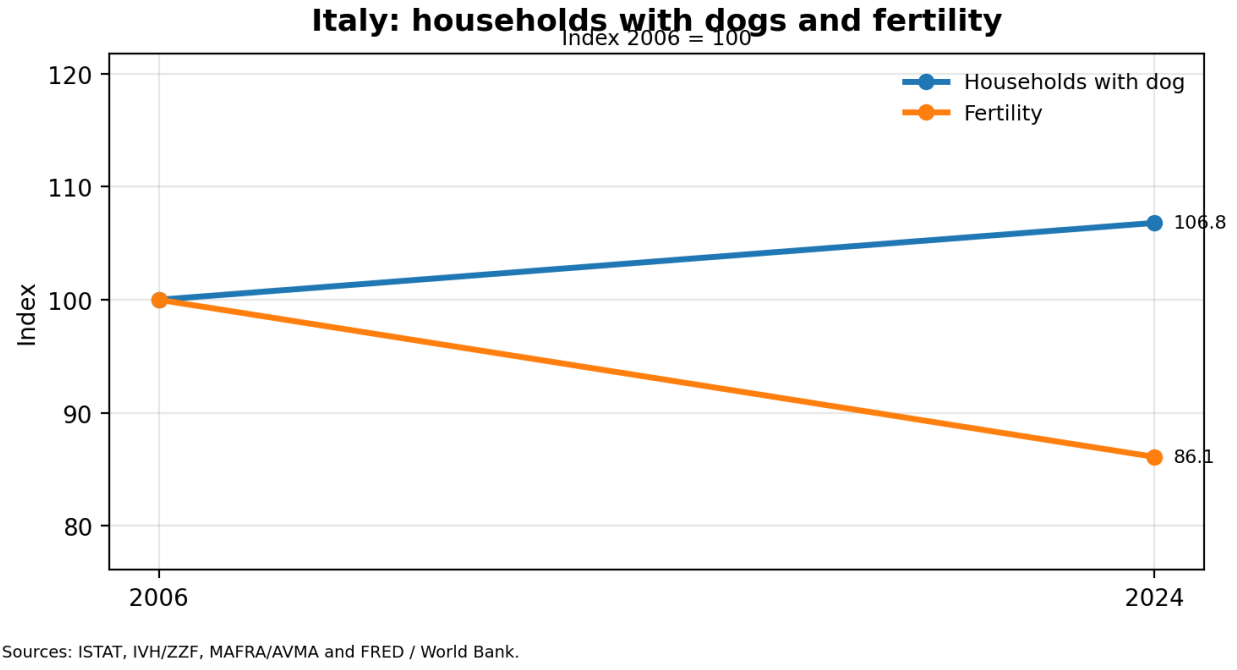
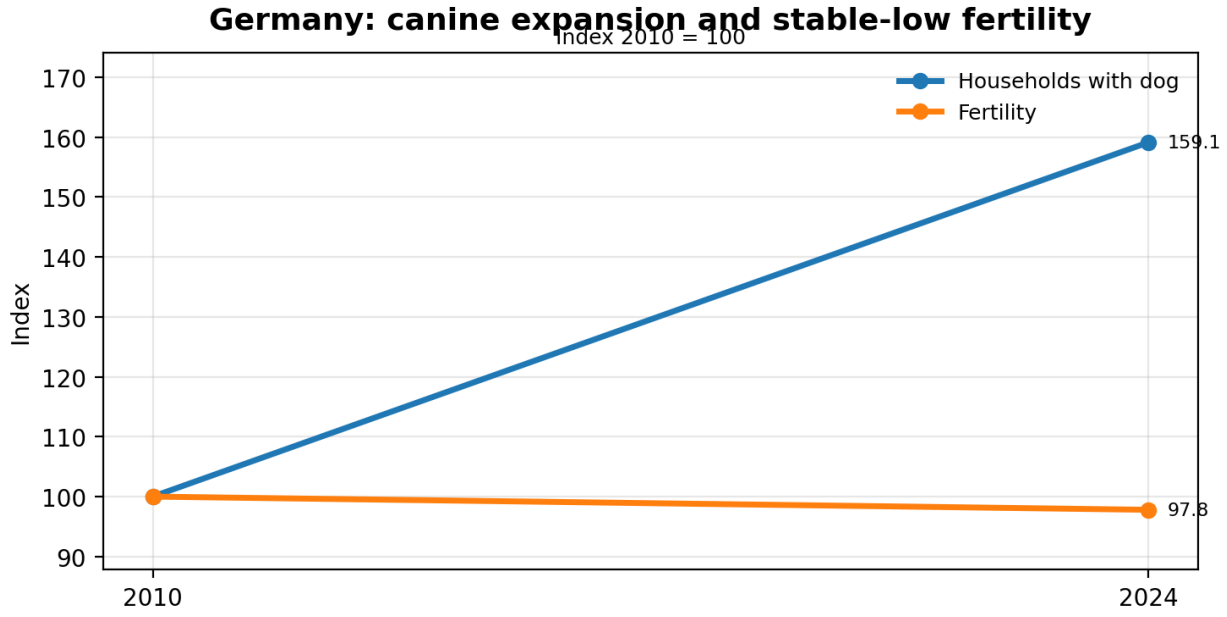
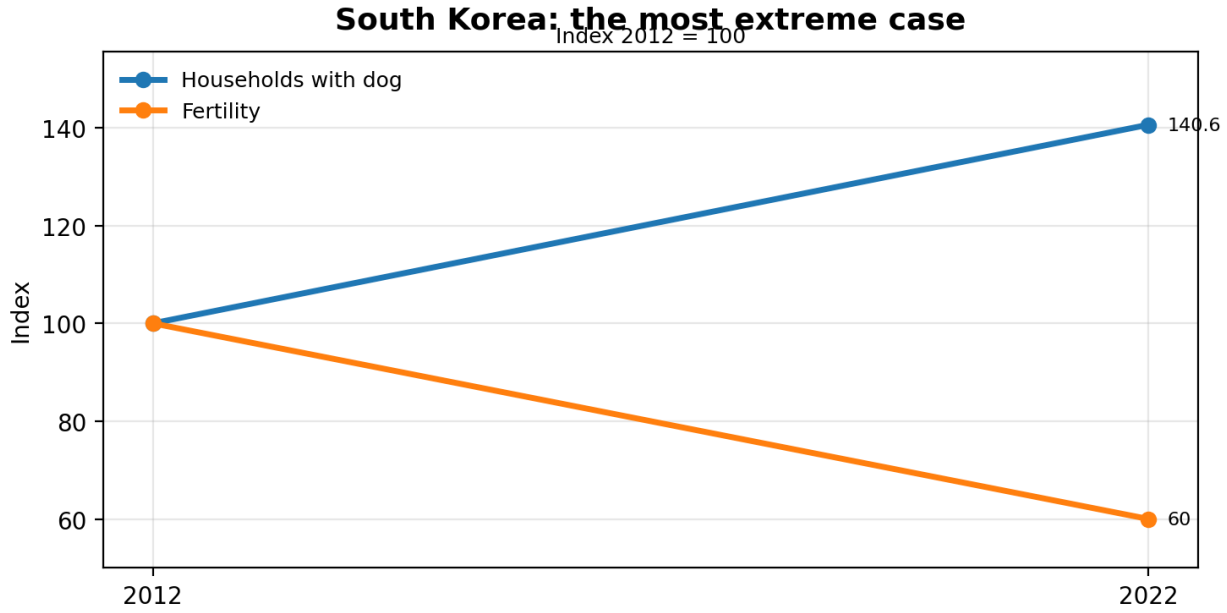


Figure 1. Italy: index 2006 = 100. Households with dog: 20.7% -> 22.1%; fertility: 1.37 -> 1.18.



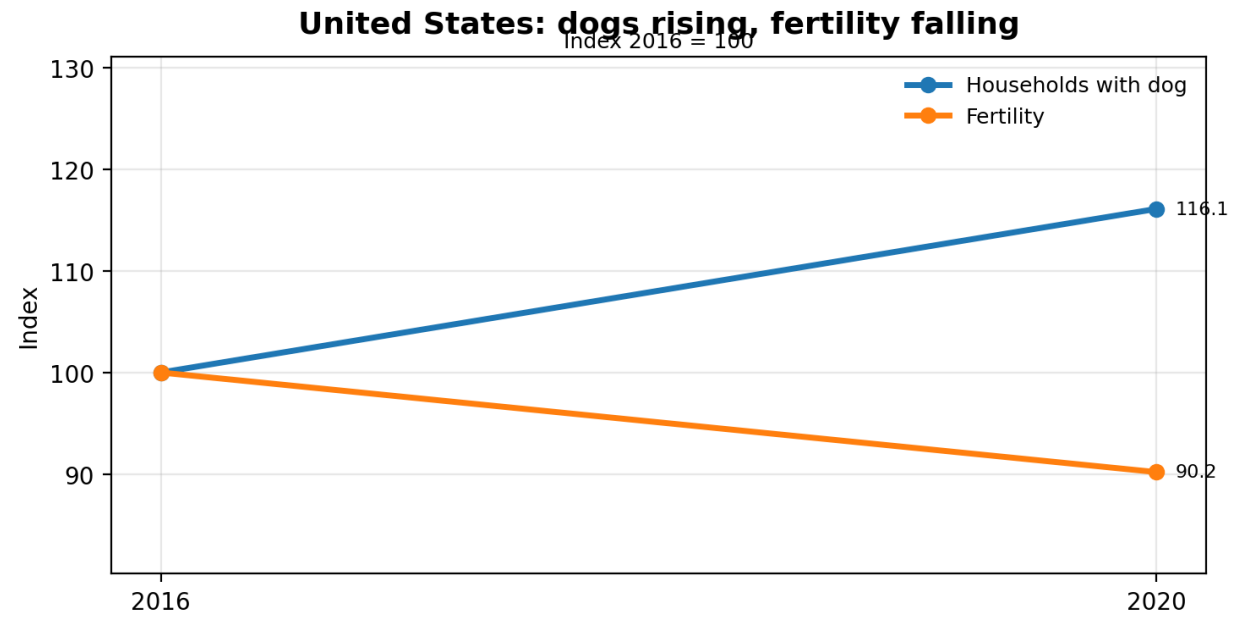
Sources: ISTAT, IVH/ZZF, MAFRA/AVMA and FRED / World Bank.

Figure 2. Germany: index 2010 = 100. Households with dog: 13.2% -> 21%; fertility: 1.39 -> 1.36.



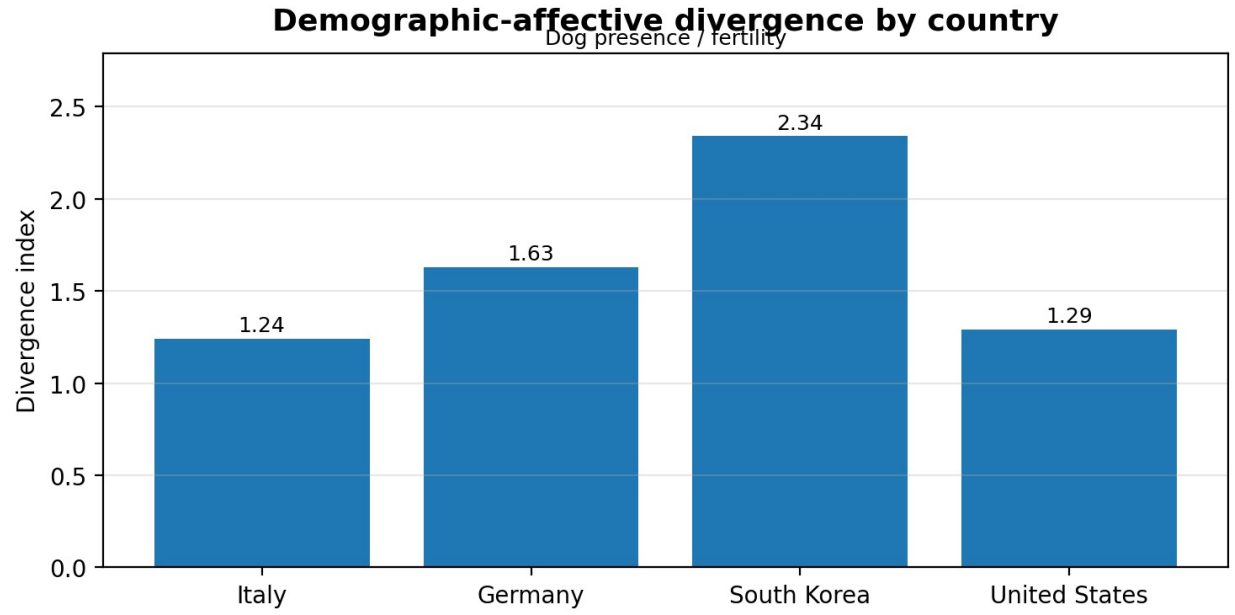
Sources: ISTAT, IVH/ZZF, MAFRA/AVMA and FRED / World Bank.

Figure 3. South Korea: index 2012 = 100. Households with dog: 3.2 m -> 4.5 m; fertility: 1.297 -> 0.778.



Sources: ISTAT, IVH/ZZF, MAFRA/AVMA and FRED / World Bank.

Figure 4. United States: index 2016 = 100. Households with dog: 38.4% -> 44.6%; fertility: 1.8205 -> 1.6415.



Sources: ISTAT, IVH/ZZF, MAFRA/AVMA and FRED / World Bank.

Figure 5. Demographic-affective divergence index. Values above 1 indicate that the presence of dogs grows in relation to fertility.

7. Italy: moderate divergence and a key figure on childless couples

Italy offers one of the cleanest sources for this analysis because ISTAT directly measures the presence of domestic animals in households. In 2024, 37.7% of Italian households had at least one domestic animal. Within that figure, 22.1% had one or more dogs and 17.4% had one or more cats. ISTAT also indicates that the share of households with dogs rose from 20.7% in 2006 to 22.1% in 2024.

Over the same period, Italian fertility fell from 1.37 children per woman in 2006 to 1.18 in 2024. Italy does not show a canine explosion as strong as Korea or Germany, but it contributes a much more important figure from the standpoint of the hypothesis: childless couples.

Among childless couples with members under 65, the percentage hosting domestic animals rose from 38% in 2006 to 42% in 2015 and 47.9% in 2024. This figure brings the phenomenon closer to the correct analytical unit: not the country in the abstract, but the childless household.

8. Germany: strong canine expansion, more ambiguous fertility

Germany shows very intense growth in the presence of dogs in households. In 2010, there were approximately 5.3 million dogs in Germany, present in 13.2% of households. In 2023, IVH/ZZF estimated 10.5 million dogs in 21% of German households.

However, German fertility does not follow a simple downward trajectory throughout the whole period. Germany had a fertility rate of 1.39 children per woman in 2010, rose to 1.60 in 2016 and then declined to 1.36 in 2024.

9. South Korea: the most extreme case

South Korea is probably the strongest case for the hypothesis of demographic-affective divergence. Its fertility is among the lowest in the world, and the expansion of pets has been very rapid.

Households with a dog rose approximately from 3.2 million in 2012 to 4.5 million in 2022. Fertility fell over the same period from 1.297 children per woman in 2012 to 0.778 in 2022.

South Korea allows the idea to be formulated with maximum clarity: society not only has fewer children; it also reorganises domestic life around non-reproductive bonds. The dog appears as part of that reorganisation.

10. United States: clear increase in households with dogs and decline in fertility

The United States also provides a relevant case. According to the AVMA, dog ownership increased from 38.4% of households in 2016 to 44.6% in 2020. Over the same period, US fertility fell from 1.8205 children per woman to 1.6415.

The pattern is clear: canine presence grows while fertility falls. In addition, more recent AVMA data indicate that between 2016 and 2025 the owned dog population rose from 76.8 million to 87.3 million.

11. Partial demographic-affective substitution

The central concept proposed here is partial demographic-affective substitution. The substitution is “demographic” only indirectly, because it occurs in a context of falling fertility. But it is not demographic in the full sense, because a dog does not replace the generational function of a child. The substitution is above all affective and domestic: the dog occupies emotional, temporal, economic and symbolic space within the household.

One can distinguish between substitution of companionship, substitution of care, symbolic substitution, consumption substitution and sociability substitution. None is equivalent to having children, but each can cover some affective needs that were previously more closely linked to large families or offspring.

12. Discussion: common causes

The relationship between fewer children and more dogs should not be interpreted as direct causality. Most likely, both phenomena share several common causes: the cost of children, individualisation, delayed motherhood and fatherhood, urbanisation, housing, the humanisation of animals, ageing and the reduction in household size.

Having children requires sufficient housing, economic stability, time, energy and expectations about the future. In societies with expensive rents, uncertain wages and delayed emancipation, reproductive decisions are postponed or reduced. By contrast, having a dog entails relevant costs, but far lower ones than raising a child.

13. Limits of the analysis

The main limit of the analysis is the heterogeneity of the sources. Fertility is measured in a very homogeneous way, but dog data vary: sometimes the percentage of households with a dog is measured, sometimes the number of dogs, sometimes households with pets and sometimes the estimated animal population.

For that reason, the present paper should not be interpreted as a definitive statistical proof, but as a first comparative approximation. To develop the analysis more precisely, homogeneous annual data on households with dogs, data by household type and urban data would be needed.

14. Conclusion

The data from Italy, Germany, South Korea and the United States support a cautious but clear conclusion: the expansion of dogs in households and the fall in fertility are simultaneous phenomena in several developed societies, although with different intensities and structures.

South Korea is the strongest case. The United States also shows a clear divergence. Italy offers a more moderate case in aggregate terms, but a very relevant one among childless couples. Germany shows the limit of the hypothesis: caninization can grow strongly even when fertility does not fall linearly throughout the whole period.

The dog does not replace the child in a demographic sense, but it can partially replace some affective, co-residential and care functions within the modern household. The caninization of the household is not the sole cause of low birth rates, but a symptom and component of the transformation of the reproductive household into an affective household.

Appendix I. Base data used

Country	Initial year	Dogs / households with dog	Final year	Dogs / households with dog	Source
Italy	2006	20.7% households with dog	2024	22.1% households with dog	ISTAT
Germany	2010	13.2% households with dog	2023	21% households with dog	IVH / ZZF
South Korea	2012	3.2 m households with dog	2022	4.5 m households with dog	MAFRA / sector reports
United States	2016	38.4% households with dog	2020	44.6% households with dog	AVMA

Country	Initial year	Initial fertility	Final year	Final fertility	Source
Italy	2006	1.37	2024	1.18	FRED / World Bank
Germany	2010	1.39	2024	1.36	FRED / World Bank
South Korea	2012	1.297	2022	0.778	FRED / World Bank
United States	2016	1.8205	2020	1.6415	FRED / World Bank

Basic bibliography and sources

ISTAT. Gli animali domestici in Italia - Anno 2024. https://www.istat.it/comunicato-stampa/gli-animali-domestici-in-italia-anno-2024/

FRED / World Bank. Fertility rate, total (births per woman): Italy. https://fred.stlouisfed.org/data/SPDYNTFRTINITA

IVH. In jedem dritten Haushalt lebt ein Tier. Germany 2010 data. https://www.ivh-online.de/presse-medien/archiv/mitteilung-des-ivh-pressedienstes/news/detail/News/in-jedem-dritten-haushalt-lebt-ein-tier-katzen-und-hunde-nach-wie-vor-sehr-beliebt.html

ZZF. Der deutsche Heimtiermarkt 2023. https://www.zzf.de/en/pressemeldung/der-deutsche-heimtiermarkt-2023

FRED / World Bank. Fertility rate, total: Germany. https://fred.stlouisfed.org/data/SPDYNTFRTINDEU

MAFRA, South Korea. Pet care industry and companion animal data. https://www.mafra.go.kr/

USDA Foreign Agricultural Service. South Korea Pet Food Report. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=South+Korea+Pet+Food+Report_Seoul+ATO_Korea+-+Republic+of_KS2024-0001.pdf

FRED / World Bank. Fertility rate, total: Korea. https://fred.stlouisfed.org/data/SPDYNTFRTINKOR

AVMA. Pet Ownership and Demographics Sourcebook. https://ebusiness.avma.org/files/ProductDownloads/eco-pet-demographic-report-22-low-res.pdf

FRED / World Bank. Fertility rate, total: United States. https://fred.stlouisfed.org/data/SPDYNTFRTINUSA